

WHAT IS CLAIMED IS:

1. A CDMA demodulation circuit comprising:

delay profile calculating means for calculating delay profiles of received signals;

- 5 path assigning means for assigning path locations to a plurality of fingers based on the calculation result obtained in said delay profile calculating means;

the plurality of fingers to which the path locations are assigned by said path assigning means, the fingers de-spreading

- 10 the assigned paths; and

rake combining means for combining output of said plurality of fingers,

- 15 wherein the CDMA demodulation circuit comprises reception controlling means that estimates a drop cycle of a reception level from the reception level combined by said rake combining means and that reduces degradation in receiving characteristics using the estimation result.

2. The CDMA demodulation circuit according to claim 1, wherein said drop cycle of the reception level is a fading pitch obtained
20 when receiving, while moving, reception waves that form standing waves with being reflected and diffracted by obstacles.

3. The CDMA demodulation circuit according to claim 1, wherein said reception controlling means comprises drop cycle estimating means for estimating the drop cycle of the reception level from
25 the reception level combined by said rake combining means, and

path assignment controlling means for controlling said path assigning means based on the estimation result obtained in said drop time estimating means.

4. The CDMA demodulation circuit according to claim 3, wherein
5 said path assignment controlling means increases guard levels in updating path timing for the fingers in said path assigning means if said drop cycle estimating means determines that the dropping of the reception level will be intense.

- 10 5. The CDMA demodulation circuit according to claim 1, wherein said reception controlling means comprises drop cycle estimating means for estimating the drop cycle of the reception level from the reception level combined by said combining means, and delay profile averaging cycle controlling means for controlling an averaging cycle for the delay profiles in said delay profile
15 calculating means based on the estimation result obtained in said drop time estimating means.

6. The CDMA demodulation circuit according to claim 5, wherein said delay profile averaging cycle controlling means increases the number of averaging frame for said delay profiles if said
20 drop cycle estimating means determines that the dropping of the reception level will be intense.

7. The CDMA demodulation circuit according to claim 3, wherein the update of the finger path assignment in said finger path assignment controlling means and in said delay profile averaging

cycle controlling means is stopped to make said finger path assigning means to maintain the last result if said drop cycle estimating means determines that the dropping of the reception level will be intense.

5 8. A CDMA demodulation method for a CDMA demodulation circuit comprising delay profile calculating means for calculating delay profiles of received signals; path assigning means for assigning path locations to a plurality of fingers based on the calculation result obtained in said delay profile calculating means; the
10 plurality of fingers to which the path locations are assigned by said path assigning means, the fingers de-spreading the assigned paths; and rake combining means for combining output of the plurality of fingers,

wherein the CDMA demodulation method comprises a first step
15 of estimating a drop cycle of a reception level from the reception level combined by said rake combining means to reduce degradation in receiving characteristics using the estimation result.

9. The CDMA demodulation method according to claim 8, wherein said drop cycle of the reception level is a fading pitch obtained
20 when receiving, while moving, reception waves that form standing waves with being reflected and diffracted by obstacles.

10. The CDMA demodulation method according to claim 8, wherein said first step comprises an eleventh step of estimating the drop cycle of the reception level from the reception level combined
25 by said rake combining means, and a twelfth step of controlling

said path assigning means based on the estimation result obtained at said eleventh step.

11. The CDMA demodulation method according to claim 10, wherein guard levels in updating path timing for said fingers in said path assigning means is increased at said twelfth step if it is determined that the dropping of the reception level will be intense at said eleventh step.

12. The CDMA demodulation method according to claim 8, wherein the first step comprises an eleventh step of estimating the drop cycle of the reception level from the reception level combined by said rake combining means, and a thirteenth step of controlling an averaging cycle for the delay profiles in said delay profile calculating means based on the estimation result obtained at said eleventh step.

13. The CDMA demodulation method according to claim 12, wherein the number of averaging frame for the delay profiles is increased at said thirteenth step if it is determined that the dropping of the reception level will be intense at said eleventh step.

14. The CDMA demodulation method according to claim 10, wherein the method further comprises a fourteenth step of stopping the update of the finger path assignment at said twelfth step and at said thirteenth step to make said finger path assigning means to maintain the last result if it is determined that the dropping of the reception level will be intense at the eleventh step.

15. The CDMA demodulation method according to claim 10, wherein the method further comprises a fifteenth step of resetting processing at said twelfth step to restart from said first process if the drop cycle of the reception level further changes after
5 assigning finger paths in accordance with the estimated drop cycle of the reception level.

16. The CDMA demodulation method according to claim 10, wherein said eleventh step is performed again after increasing the guard levels at said twelfth step.

10 17. The CDMA demodulation method according to claim 12, wherein said eleventh step is performed again after increasing the number of averaging frame for the delay profiles at said thirteenth step.

15 18. The CDMA demodulation method according to claim 14, wherein said eleventh step is performed again after making said path assigning means to maintain the last result at said fourteenth step.

20 19. The CDMA demodulation method according to claim 10, wherein said eleventh step comprises a 21st step of determining whether or not the absolute value of the difference between the last calculated drop cycle of the reception level and the currently calculated drop cycle of the reception level is equal to or below a predetermined value, and a 22nd step of determining, if the

absolute value is equal to or below the predetermined value, whether or not the determination of the absolute value being equal to or below the predetermined value have continued for a predetermined times.

- 5 20. The CDMA demodulation method according to claim 19, wherein the method further comprises a 23rd step of determining an average of the drop cycles of the reception level measured when the determination of the absolute value being equal to or below the predetermined value have continued for the predetermined times
- 10 at said 22nd step.